Math 14 Review For Exam 2 : sections 2.1-2.9 −2.7

1	Find the distance between $(-2,-4)$ and $(1,-5)$.	16	Find all the x and y intercepts of $f(x) = x^3 - 9x$.
2	Find the midpoint between points $(3,-5)$ and $(2,7)$.	17	Find all x such that $(x,6)$ is a point on the graph of $f(x) = x^2 + x$.
3	Find the x and y intercepts of $y = x^2 - 5x - 14$.	18	Is the function even, odd or neither? A) $f(x) = \frac{x^3+5x}{x-x^5}$ B) $f(x) = \frac{x^2+5}{x^3-x}$
4	Test for symmetries: $y = \frac{2x-x^3}{x+x^5}$	19	Find the average rate of change of $f(x) = 3 - x^2$ from $x = 0$ to $x = 2$.
5	Find the center and radius: $x^2 + y^2 - 10x + 2y + 1 = 0$	20	For $f(x) = 2x - x^2$, find $\frac{f(3+h)-f(3)}{h}$ and simplify.
6	Find the equation of the line through $(-2,4)$ and $(-1,7)$.	21	For $f(x) = \begin{cases} 3, & x \le 2 \\ -x+5, & x > 2 \end{cases}$ Find $f(-10), f(2), f(7)$. Draw the graph.
7	Find the equation of the line parallel to the y-axis and through $(2,5)$.	22	Graph $f(x) = (x+1)^2 - 4$. Find the x and y intercepts.
8	Find the equation of the line perpendicular to the x-axis and through $(7,8)$.	23	What equation is the result of the following transformations of $y = \sqrt{x}$? • Reflect through y-axis • Shift left 3 • Shift up 10 • Reflect through the x-axis
9	Find the x and y intercepts of $2x + 3y = 7$.	24	Show that the following transformations of $y = \sqrt{x}$ result in $y = -\sqrt{-x+3} - 10$. • Reflect through y-axis • Shift right 3 • Shift up 10 • Reflect through x-axis
10	Find the slope of the line that is parallel to $3x - 2y = 7$.	25	For $f(x) = 3 - 2x$ and $f(x) = x^2 + 2$ find $f(g(x))$ and $g(f(x))$.
11	Find the slope of the line that is perpendicular to $7x + 5y = 2$.	26	A function is one-to-one if _____.
12	Does $y^2 + 2x = 7$ define y as a function of x?	27	A function has an inverse if it is _____.
13	For $f(x) = 7 - 2x$, find $f(3x - 2)$.	28	Assume $f(x)$ is one-to-one, and $f(2) = 3$, then $f^{-1}(3) =$__ and $f(f^{-1}(3)) =$ ____.
14	Find the domain of A) $f(x) = \frac{x-3}{x^2-5x-14}$ B) $f(x) = \frac{x-2}{\sqrt{x-5}}$	29	If $f(x) = 7 - 3x$, then $f^{-1}(x) =$_____.
15	Is point $(-3,4)$ on the graph of $x^2 + y^2 = 25$?	30	If $f(x) = \frac{1}{x-5}$, then $f^{-1}(x) =$_____.